SUMMARY

The fall of 2001 opened dry and mild, transitioned to a cool and wet mid-season, and closed wet with near to slightly below normal temperatures. This was especially true west of the Cascades, while eastern sections gained more precipitation late in the period. Apart from a couple of weak fronts in September and early October, high pressure aloft held. It closely followed climatology, sufficiently weakening to allow the jet stream to bring storms in mid to late October, and again later in November. But the high pressure ridge temporarily recovered in early November. This placed eastern sections in a drier mode, even though the storms returned precipitation late in the month. Frequent storms continued into the first part of December. Temperatures were above normal for the month of September and several record high temperatures were reached, mostly in western Montana. September 2001 was the hottest September on record in Helena, Montana. The average monthly departure was +5.1 °C (+9.2 °F). Near normal temperatures in October gave way to above normal temperatures in November. High temperature records again outnumbered low temperature records in October and November 2001, most occurring early in each month. The majority of the new high temperature records were again set in western Montana. Precipitation in September averaged 48 percent of normal at the Columbia River above Grand Coulee, 54 percent of normal at the Snake River above Ice Harbor, and 49 percent above normal at the Columbia River above The Dalles. For October, 128 percent of normal precipitation fell at the Columbia River above Grand Coulee, 132 percent of normal at the Snake River above Ice Harbor, and 145 percent of normal at the Columbia River above The Dalles. In November 67 percent of normal precipitation fell at the Columbia River above Grand Coulee, 96 percent of normal at the Snake River above Ice Harbor, and 86 percent of normal at the Columbia River above The Dalles.

December 2001 through February 2002 was a wet mild period, concentrated mainly across the northern U.S. basins and through Canada. While the jet stream targeted these areas, high pressure aloft kept southern basins drier than normal, by weakening incoming fronts. December's regional temperatures averaged near normal, January's above normal, and February's were slightly below normal. There were several high temperature records established for the three-month period, most occurring in February, ironically when regional temperatures averaged cooler than normal. December precipitation was 90 percent of normal at the Columbia River above Grand Coulee, 111 percent of normal at the Snake River above Ice Harbor, and 98 percent of normal at the Columbia River above The Dalles. In January, these values were 101 percent of normal at the Columbia River above Grand Coulee, 91 percent of normal at the Snake River above Ice Harbor, and 94 percent of normal at the Columbia River above The Dalles. For February, precipitation totaled 114 percent of normal at the Columbia River above Grand Coulee, 49 percent of normal at the Snake River above Ice Harbor, and 82 percent of normal at the Columbia River above The Dalles.

For March through May, a wet period ruled mainly through Canada and across the northwestern U.S. A secondary wet area was over the southeastern basins, mainly in April. An upper level low pressure trough kept a cool northwest flow into the region, the strongest impact of which was felt in March and again in May. Higher pressure aloft ridged up early in April, but did not last through the month. After being suppressed south in early May, it bulged back north about mid month. This caused the storm track to mainly cut across southern B.C. and northwest Montana in mid to late May.

Regional temperatures were below normal in March, with record low temperatures dropping below -17.8 °C (zero °F) in southeast Idaho and western Montana. They included: -1.1 °C (-2.0 °F) in Pocatello, Idaho and –11.6 °C (-21.0 °F) at Havre, Montana. March also had some record high temperatures, coming early in the month before the northwest flow began: Portland, Oregon at 20.6 °C (69.0 °F) and 22.2 °C (72.0 °F) at Salem, Oregon. April temperatures were closer to normal, region wide, although many record temperatures were broken. Some of the new record lows included: Pendleton, Oregon, -3.3 °C (26.0 °F) on 3 April; -5.0 °C (23.0 °F) at Grand Coulee Dam and Yakima, Washington on 24 April, and –6.1 °C (21.0 °F) at Spokane, Washington also on 24 April. In May, temperatures averaged slightly below normal, even though new **high** temperature records again strongly outnumbered new temperature **low** records. In March, precipitation was 115 percent of normal at the Columbia River above Grand Coulee, 95 percent of normal at the Snake River above

Ice Harbor, and 108 percent of normal at the Columbia River above The Dalles. For April, precipitation was 93 percent of normal at the Columbia River above Grand Coulee, 100 percent of normal at the Snake River above Ice Harbor, and 95 percent of normal at the Columbia River above The Dalles. Finally, for May, precipitation was 129 percent of normal at the Columbia River above Grand Coulee, 55 percent of normal at the Snake River above Ice Harbor, and 94 percent of normal at the Columbia River above The Dalles.

Drier weather became more widespread across most southern basins, including Oregon and central through southern Idaho. This anomaly expanded north as July progressed. The storm track, therefore, pointed across British Columbia, Washington, northern Idaho and northwest Montana in June then lifted into the Canadian Upper Columbia region in July. Both months were warmer than normal, even though a few low temperature records were tied or broken. Just as in March through May, the new record high temperatures outnumbered the cool ones. For June, these high temperature records included: 27.8 °C (82 °F) at Astoria, Oregon, 30 °C (86 °F) at Olympia, Washington, 31.7 °C (89 °F) at Eugene, Oregon, and 33.9 °C (93 °F) at Portland, Oregon, all on 12 June. On 13 June, another record fell at Portland, Oregon: 36.1 °C (97 °F) and the temperature reached 34.4 °C (94 °F) at Sea/Tac Airport in Seattle, Washington. For July, record high temperatures crumbled at Astoria, Oregon; Olympia, Washington; Portland, Oregon; Boise, Idaho; Pendleton, Oregon; and Missoula, Montana to name a few. Many of these values broke the 100 °F mark, ranging from 38.3 °C (101 °F) at Pocatello, Idaho to 43.3 °C (101 °F) at Boise, Idaho.

June precipitation was 97 percent of normal at the Columbia River above Grand Coulee, 80 percent of normal at the Snake River above Ice Harbor, and 89 percent of normal at the Columbia River above The Dalles. In July, precipitation was 70 percent of normal at the Columbia River above Grand Coulee, 65 percent of normal at the Snake River above Ice Harbor, and 71 percent of normal at the Columbia River above The Dalles.

The seasonal precipitation for the Columbia Basin for the 2001 – 2002 water year generally was average to slightly above average on the east and west portions of the basin and below normal in the central and southern tiers of the basin. Snow accumulation for the Columbia River above The Dalles was slightly above normal for 2002, in contrast to the drought conditions of 2001.